

REMARKS

Reconsideration and allowance of the subject application are respectfully solicited.

Claims 69 through 90, all newly-presented are pending, with Claims 69, 73, 77, 80, 83, 85, 87, and 89 being independent. Claims 1 through 6, 9 through 12, 14, 20 through 22, 24, 27, and 44 have been cancelled without prejudice. The specification has been amended.

Figs. 6A through 7E have been labeled as --PRIOR ART--, as required, by the Request for Approval to Amend the Drawings being filed concurrently herewith.

The Summary of the Invention was objected to because it "contains numerous details of the invention". And the specification was objected to for repeating text at pages 7 and 11. All objections are respectfully traversed, and are submitted to have been obviated by the amendment of the specification in the Summary of the Invention to refer to specified conditions by reference to their numbering rather than by setting forth the conditions, and to delete the repeated text.

Claims 12 and 14 were objected to under 37 C.F.R. § 1.75(c) for failing to further limit the subject matter of a previous claim. Also, the Official Action suggested amendments to Claims 22 and 24. And Claims 1 through 6, 9 through 11, 20 through 22, 24, 27, and 44 were rejected under 35 U.S.C. § 112, 2nd paragraph, as being indefinite. Furthermore, Claims 1, 2, 4, 5, 9, 10, 20, 27, and 44 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 5,550,672 (Cook); Claims 1, 2, 4, 5, 9, 10, and 27 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 5,515,207 (Foo); and Claims 1 through 6, 9 through 11, 20 through 22, 24, 27, and 44 were rejected under 35 U.S.C. § 103 over Japanese Laid-Open Patent Application No. 8-292372 ("JP '372"). All objections, suggestions, and rejections are respectfully traversed.

The previous claims have been replaced with new Claims 69 through 90, which are respectfully submitted to avoid the grounds of objection under 37 C.F.R. § 1.75(c) and rejection under 35 U.S.C. § 112, 2nd paragraph.

Turning to the rejections under 35 U.S.C. §§ 102 and 103, with respect to Claims 69, 73, 77, and 80, Applicants respectfully submit that Claims 69 and 77 include language formulated upon the basis of the spot size recitation of Claim 12, while Claims 73 and 80 include language formulated upon the basis of the spot size recitation of Claim 14; since neither of Claims 12 and 14 was rejected under 35 U.S.C. §§ 102 and 103, allowance of Claims 69, 73, 77, and 80 is respectfully requested.


Claims 83, 85, 87, and 89 variously recite, inter alia, respective specified numerical relations, which Applicants respectfully submit are neither disclosed nor suggested by Cook, Foo, and JP '372.

The dependent claims are also submitted to be patentable because they set forth additional aspects of the present invention and are dependent from independent claims discussed above. Therefore, separate and individual consideration of each dependent claim is respectfully requested.

Applicants submit that this application is in condition for allowance, and a Notice of Allowance is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C.
office by telephone at (202) 530-1010. All correspondence should continue to be directed to our
address listed below.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO THE SPECIFICATION

Please substitute the following paragraph for the paragraph starting at page 2, line 10 and ending at line 16.

In this example, the lens system L1 [composes] is composed of an object-side imaging element for forming the image of the object 1 on the intermediate image plane 2 in the lens system L3, and the lens system L2 [composes] is composed of an image-side imaging element for reimagining the image on the intermediate image plane 2, on the final image plane 3.

Please delete the following paragraphs starting at page 11, line 3 and ending at line 18.

Accordingly, in Figs. 6A to 6C, when the intermediate image plane 2 is imaged on the final image plane 3 where the image pickup device is located and when β_{11} represents the image magnification of the lens system 11 of the image-side imaging element, the size of the noise source posing the problem near the intermediate image plane 2 is not less than approximately the following:

$$5b/|\beta_{11}| \quad (\text{Eq 1}).$$

In this equation, $|\beta_{11}|$ indicates the absolute value of the image magnification β_{11} of the lens system 11 being the image-side imaging element. For example, supposing the

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pixel size of CCD being the image pickup device is 5 μm square and β_{11} is 1, the size of the noise source posing the problem near the intermediate image plane is not less than 25 μm .

Please substitute the following paragraph for the paragraph starting at page 17, line 13 and ending at line 21.

(2-2-2) a stop is provided near the entrance surface of said optical element and the [following] relation [is satisfied:

$$15 \cdot b / |\beta_{11}| < SD$$

where SD is a spot diameter on said intermediate image plane, b a length of a minimum resolution given by a size of a pixel of said image pickup device when said stop is at a minimum aperture value, and β_{11} an image magnification of said image-side imaging element] set forth in Equation 3 below is satisfied;

Please substitute the following paragraph for the paragraph starting at page 17, line 22 and ending at page 18, line 3.

(2-2-3) a stop is provided near the entrance surface of said optical element and the [following] relation [is satisfied:

$$15 \cdot b / |\beta_{11}| < SD$$

where SD is a spot diameter on said intermediate image plane, b a length of a minimum resolution given by a size of a pixel of said image pickup device when said stop is at a full

aperture value, and β_{11} an image magnification of said image-side imaging element] set forth in Equation 4 below is satisfied;

Please substitute the following paragraph for the paragraph starting at page 18, line 4 and ending at line 12.

(2-2-4) a stop is provided near the entrance surface of said optical element and the [following] relation [is satisfied:

$$25 \cdot b / |\beta_{11}| < SD$$

where SD is a spot diameter on said intermediate image plane, b a length of a minimum resolution given by a size of a pixel of said image pickup device when said stop is at a full aperture value, and β_{11} an image magnification of said image-side imaging element] set forth in Equation 5 below is satisfied;

Please substitute the following paragraph for the paragraph starting at page 22, line 12 and ending at line 20.

(4-2-2) a stop is provided near the entrance surface of said optical system and the [following] relation [is satisfied:

$$15 \cdot b / |\beta_{11}| < SD$$

where SD is a spot diameter on said intermediate image plane, b a length of a minimum resolution given by a size of a pixel of said image pickup device when said stop is at a minimum

aperture value, and β_{11} an image magnification of said image-side imaging element] set forth in Equation 3 below is satisfied;

Please substitute the following paragraph for the paragraph starting at page 22, line 21 and ending at page 23, line 2.

(4-2-3) a stop is provided near the entrance surface of said optical system and the [following] relation [is satisfied:

$$15 \cdot b / |\beta_{11}| < SD$$

where SD is a spot diameter on said intermediate image plane, b a length of a minimum resolution given by a size of a pixel of said image pickup device when said stop is at a full aperture value, and β_{11} an image magnification of said image-side imaging element] set forth in Equation 4 below is satisfied;

Please substitute the following paragraph for the paragraph starting at page 23, line 3 and ending at line 11.

(4-2-4) a stop is provided near the entrance surface of said optical system and the [following] relation [is satisfied:

$$25 \cdot b / |\beta_{11}| < SD$$

where SD is a spot diameter on said intermediate image plane, b a length of a minimum resolution given by a size of a pixel of said image pickup device when said stop is at a full

aperture value, and β_{11} an image magnification of said image-side imaging element] set forth in

Equation 5 below is satisfied;

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